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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,073	03/30/2006	Takeo Watanabe	SHIGA7.047APC	3794

20995 7590 12/17/2007

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EXAMINER
WALKE, AMANDA C

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
12/17/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
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Office Action Summary	Application No.	Applicant(s)	
	10/574,073	WATANABE ET AL.	
	Examiner	Art Unit	
	Amanda C. Walke	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5 and 7-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *9* is/are allowed.

6)☒ Claim(s) *1-3,5,7,8 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

In light of applicant's amendment, the rejection of record has been withdrawn and a new rejections follows.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5, 7, 8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (6,576,392).

Sato et al disclose a resist composition comprising a photoacid generator, solvent (including PGME, MMP, and methyl ethyl ketone; column 75, lines 44-65), and may be sensitive to EUV or electron beans (column 76, lines 36-61). The resin may comprise a low molecular weight compound (see column 34, lines 24-24), (may have a molecular weight or under 2,000), or may comprise multiple monomers such as hydroxystyrenes in combination with sulfonic acid releasing monomers and methacrylic acid esters comprising lactones (column 15-23). Preferred resins may comprise one of each (column 28 lines 58-67). The resin may further comprise a copolymer such as methacrylic acid esters (column 32, lines 1-68) as required by the instant claims. It would have been obvious to one of ordinary skill in the art to prepare the material of the reference choosing to employ either a low molecular weight resin or to choose a lactone containing monomer in combination with a hydroxystyrene in the amounts claimed.

Regarding claim 2, the claim as written simply requires a composition *capable* of exhibiting the claimed characteristics. Given that the material of Szmanda et al is so similar and comprises materials described as being suitable in the instant specification, it is the position of the examiner that the reference is capable absent evidence to the contrary.

Regarding claim2 and claim 3 is drawn to a composition not a method, however the claim appears to be attempting to claim a method step. From the MPEP:

§ 2113:

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)... "The Patent Office bears a lesser burden proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessman, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983).

1. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satoet al in view of Irie (6,855,485 pr 6,966,710).

Sato et al has been discussed above and the reference teaches a material comprising the same additives as the instant invention and teaches that the material is EUV or ebeam sensitive, however the method of the reference fails to specificy whether or not the EUV exposure takes place in a vacuum.

In a known lithographic process using krypton fluoride (KrF) excimer laser radiation (with a wavelength of around 248 nm) or argon fluoride (ArF) excimer laser radiation (with a wavelength of around 193 nm), an exposure process is carried out in the air or nitrogen ambient. However, if the same exposure process is performed in such an ambient using EUV radiation, then the radiation is absorbed into oxygen or nitrogen molecules contained in the ambient, because the EUV radiation has a much shorter wavelength. This is why the EUV exposure process should be carried-out in a vacuum. The reference teaches that the EUV exposure is performed in a vacuum 1.0 x10-6 Pa. Specifically, the EUV radiation is emitted from an EUV radiation source (not shown) at a wavelength of around 13 nm, for example, directed toward a reflective mask 23 and then reflected therefrom. Subsequently, the reflected part 24 of the EUV radiation is condensed by a reflection/demagnification optical system 25 to about 1/5, for example, and then allowed to be incident onto the resist film 21. As a result, the resist film 21 comes to have exposed and non-exposed portions 21a and 21b. In the illustrated embodiment, radiation with a wavelength of around 13 nm is used as the EUV radiation. Alternatively, any other radiation with a wavelength somewhere between 3 and 50 nm may also be used. The

reflective mask 13 and reflection/demagnification optical system 25 may be the same as those used for the first embodiment.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art would have been motivated to perform the method of the Sato et al reference choosing to perform the exposure in a vacuum as in well known in the art and taught by the Irie references.

Allowable Subject Matter

2. The following is a statement of reasons for the indication of allowable subject matter: Claim 9 is indicated as allowable as the prior art of record fails to teach or suggest a composition as instantly claimed consisting of the claimed monomers.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1795

ACW
December 10, 2007